

19980829 H1- RADAR

E.5 Doppler Radar Scientist (On-Board)

The on-board Doppler radar scientist (DRS) is responsible for data collection from all radar systems on his/her assigned aircraft. Detailed operational procedures and check lists are contained in the operator's manual supplied to each operator. General supplementary procedures follow. (Check off and initial.)

E.5.1 Preflight

- ☒ 1. Determine the status of equipment and report results to the on-board lead project scientist (LPS).
- ☒ 2. Confirm mission and pattern selection from the on-board LPS.
- ☐ 3. Select the operational mode for radar system(s) after consultation with the on-board LPS.
- ☐ 4. Complete the appropriate preflight calibrations and check lists as specified in the radar operator's manual.

E.5.2 In-Flight

- ☐ 1. Operate the system(s) as specified in the operator's manual and as directed by the on-board LPS or as required for aircraft safety as determined by the AOC flight director or aircraft commander.
- ☐ 2. Maintain a written commentary in the radar logbook of tape and event times, such as the start and end times of F/AST legs. Also document any equipment problems or changes in R/T, INE, or signal status.

E.5.3 Postflight

- ☐ 1. Complete the summary check lists and all other appropriate check lists and forms.
- ☐ 2. Brief the on-board LPS on equipment status and turn in completed forms to the LPS.
- ☐ 3. Hand-carry all radar tapes and arrange delivery as follows:
 - a. Outside of Miami - to the HRD Field Ground Operations Center (FGOC).
 - b. In Miami - to MGOC or to AOML/HRD. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]
- ☐ 4. Debrief at the appropriate operations center (FGOC or MGOC).
- ☐ 5. Determine the status of future missions and notify the appropriate operations center (FGOC or MGOC) as to where you can be contacted.

VME experiment

Doppler Radar Scientist Check List

Flight ID: 98082941 Hurricane Dorelle
Aircraft Number: 42
Doppler Radar Operators: M. Black
Radar Technician: Shawn
Number of digital magnetic tapes on board: 8

Component Systems Status:

MARS <u>✓</u>	Computer <u>✓</u>
DAT1 <u>✓</u>	DAT2 <u>✓</u>
LF <u>✓</u>	R/T Serial # <u>102</u>
TA <u>✓</u>	R/T Serial # <u>123/202</u>

Time correction between radar time and digital time: _____

Radar Postflight Summary

Number of digital tapes used: _____
DAT1 _____
DAT2 _____

Significant down time:

DAT1 _____	Radar LF _____
DAT2 _____	Radar TA _____

Other Problems:

HRD Radar Tape Log

Flight 980929H Aircraft 42 Operator M Black Sheet 1 of 3
 LF RPM 2 TA RPM 10

(Include start and end times of DATs, as well as times of F/AST legs and any changes of radar equipment status)

Tape #	F/AST On?	Event Time (HHMMSS)	Event
1	✓ DPRF	184810	Heading for IP, 2100/1400 PRF
1	✓	2005	convective band 150 mile west of ctr
pt 1	✓	200847	AT IP NW of center
pt 2	✓	2040	near eye - missed it - circling in eye
5	✓	204306	eye - drop
pt 3	✓	21	
pt 4	✓	2109	inbound from NW (AXBT) Good
1	✓	21530	drop (AXBT) NW of center
eye 5	✓	2120	eye 25.92 71.01 -
✓	✓	212920	drop (AXBT) 2129 59-drop - rain band
pt 5	✓	2133	drop
pt 6	✓	213620	turn to eye from south
✓	✓	213714	(AXBT) PT 6 (4)
✓	✓	213835	drop in rainband outer edge
✓	✓	213945	drop in rainband middle
5 eye	✓	214811	eye drop - 986 mb
pt 7	✓	2157	Turn at PT 7
✓	✓	215840	(AXBT) PT 7 North of center
pt 8	✓	2210	2210 (AXBT) inbound from west
5	✓	2219	eye

2220

radar
down

cont'd

HRD Radar Down-Time Log

Operator M. Black Flight ID 98082911 Sheet of

[illegible]

Item List: DAT1, DAT2, COMP, MARS, LF, TA.

Include serial numbers of any new R/Ts.

radar log (2) 980929H Danielle

Tape # F/AST Event Comments

— (2) — drop near wind max 222630 East side
 — — ~~AXBT~~ 222646
 — — drop outer wind max 222801 East side

— 222948 Turn at Pt 9 to North

1-2 2235 Radar up

1-2 2237 — circling at Pt 9

1-2 2249 Pt 10

1-2 2252 — hdg inbound — single PRF continuous

1-2 225637 drop sonde — not initialize

1-2 225900 — 9

1-2 2304 — sonde AXBT south eyewall

1-2 230751 — sonde south rainband

1-2 230801 — AXBT 9 south rainband

Single PRF 1-2 230830 — sonde south rainband, 11

1-2 F/AST downwind leg to Pt 12 2312

1-2 continuous — hdg to eye from east

1-2 2332 981810034 sonde (10) AXBT 26.0°C

9 1-2 2337 inner rainband/eyewall

Pt 13 1-2 2346 — turn F/AST — Dual PRF 2100/1600

Pt 14 1-12 235124 — turn to eye

5 — 2359 eye

00124 drop — inner eyewall/rainband

000330 AXBT — between band

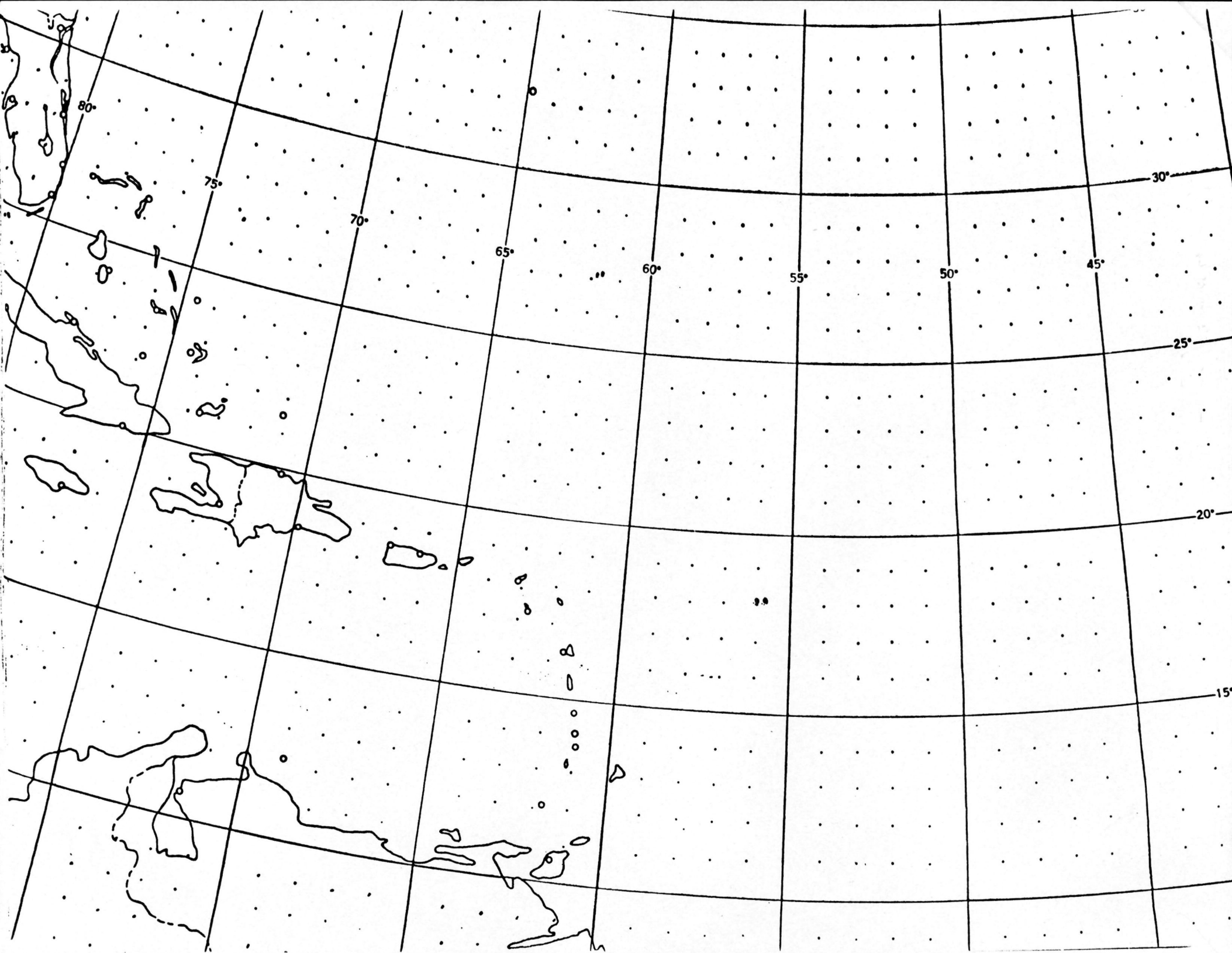
000944 — Turn at Pt 15

002348 Turn at Pt 16 to ctr

5 0033 — eye

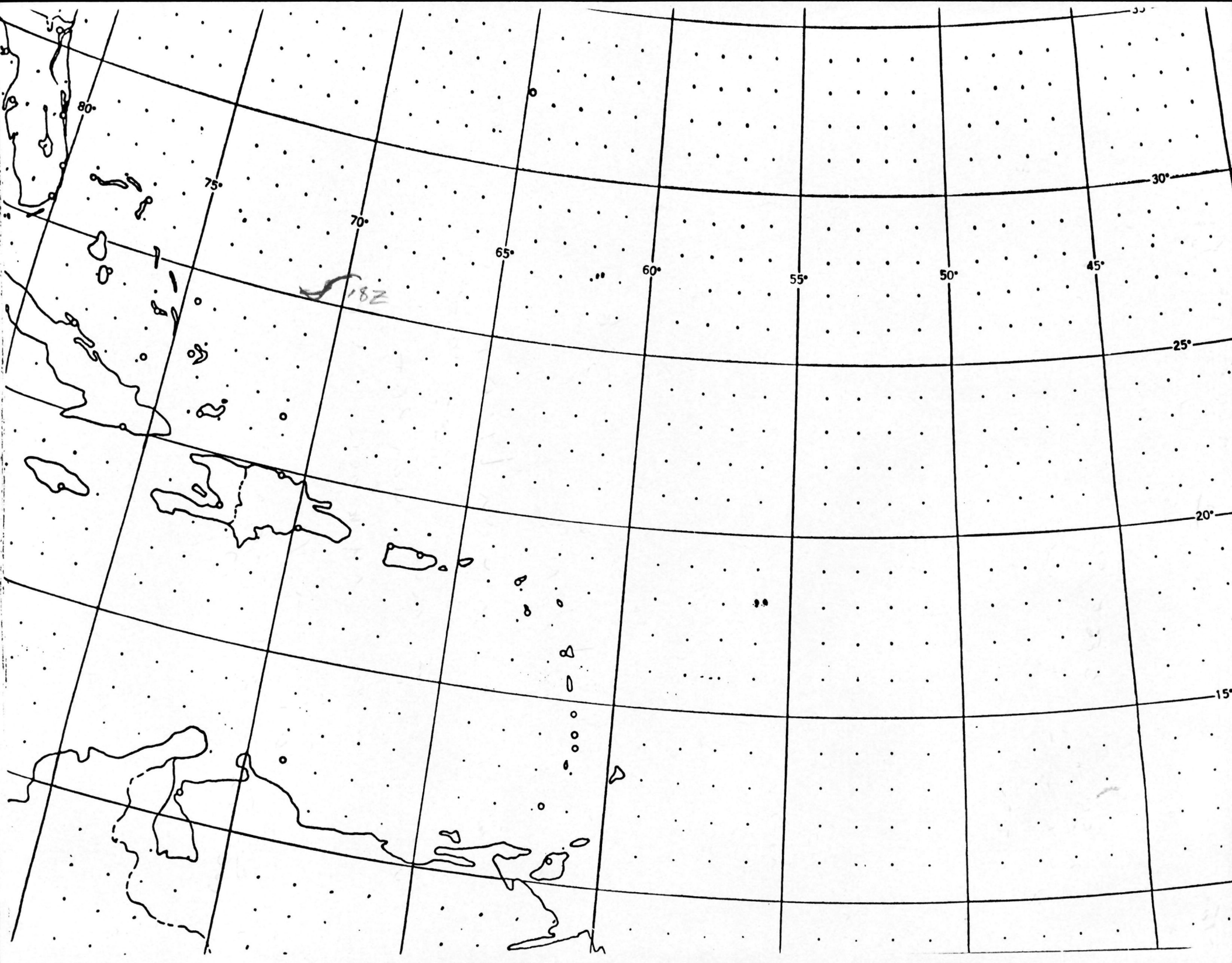
003830 — drop SW eyewall

Trail down
 0030-0038



Tape 2 Radar 109 (3) 980929 H Danielle
 003940 - AXBT SW eyewall
 004250 - turn at pt 17
 005502 - drop sonde near pt 18
 005005 - AXBT near pt 18 28.6
 continuous - single PRF
 005758 - turn at pt 18 heading to eye
 010525 - drop NE eyewall #981750004
 010730 - drop inner NE eyewall #982010059
 011510 eye
 0125 - pt 19 F/AST single PRF
 0137 - pt 20 - continuous single PRF
 circling
 014148 sonde SW rainband/outer eyewall
 014247 sonde inner edge ~~SW~~ SW eyewall
 014715 eye 26°04' 71°33'
 0155⁰⁰ - end of leg
 015943 - drop and AXBT 50 mi NW
 of center - Failed
 0203 - F/AST Dual PRF
 - heading back to Opa-locka
 all on PR1 - Tape 2
 025514 - end recording
 Pg 3 of 3

Archive
 Danielle



980829H1

DANIELLE

(min.) (max.)

Pitch= 1.6; 4.6

52 Roll= -2.9; 7.4

50

47 Track=115.2;118.3

45

42 Drift=-10.8; -4.6

40

37 Tilt= 1.7; 2.5

35

32 Alt= 3643 m

30

27 Olat= 24.65 N

25 Olon= 72.11 W

22 Rlat= 25.70 N

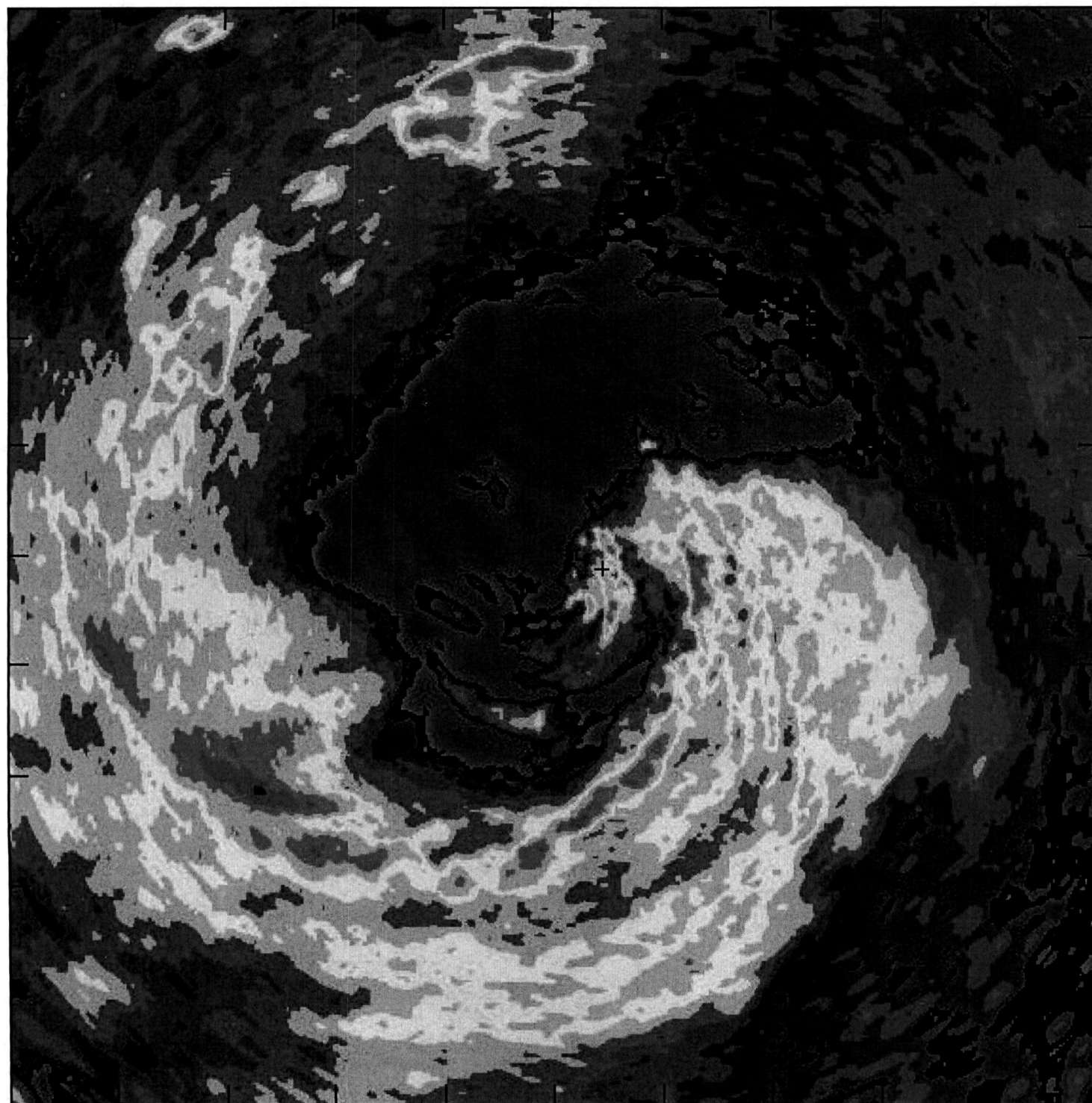
20 Rlon= 70.81 W

dBZ

204527 Z

Lower Fuselage

240 X 240 km



980829H1

DANIELLE 1

(min.) (max.)

Pitch= 1.7; 2.4

52 Roll= -1.7; 3.1

50

47 Track=323.1;325.2

45

42 Drift= -1.1; 1.1

40

37 Tilt= 2.0; 2.6

35

32 Alt= 3714 m

30

27 Olat= 24.97 N

25 Olon= 72.75 W

22 Rlat= 26.07 N

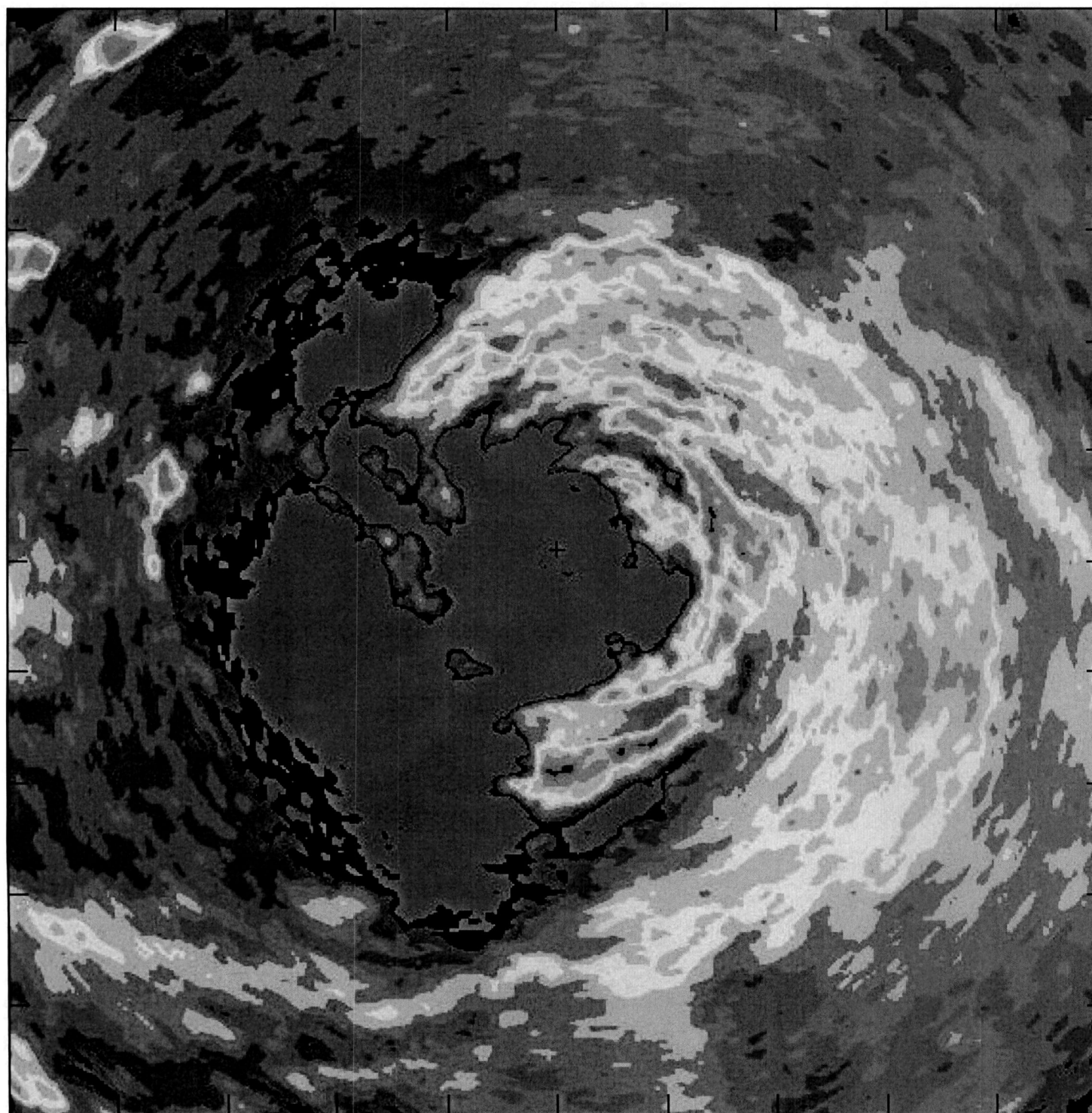
20 Rlon= 71.55 W

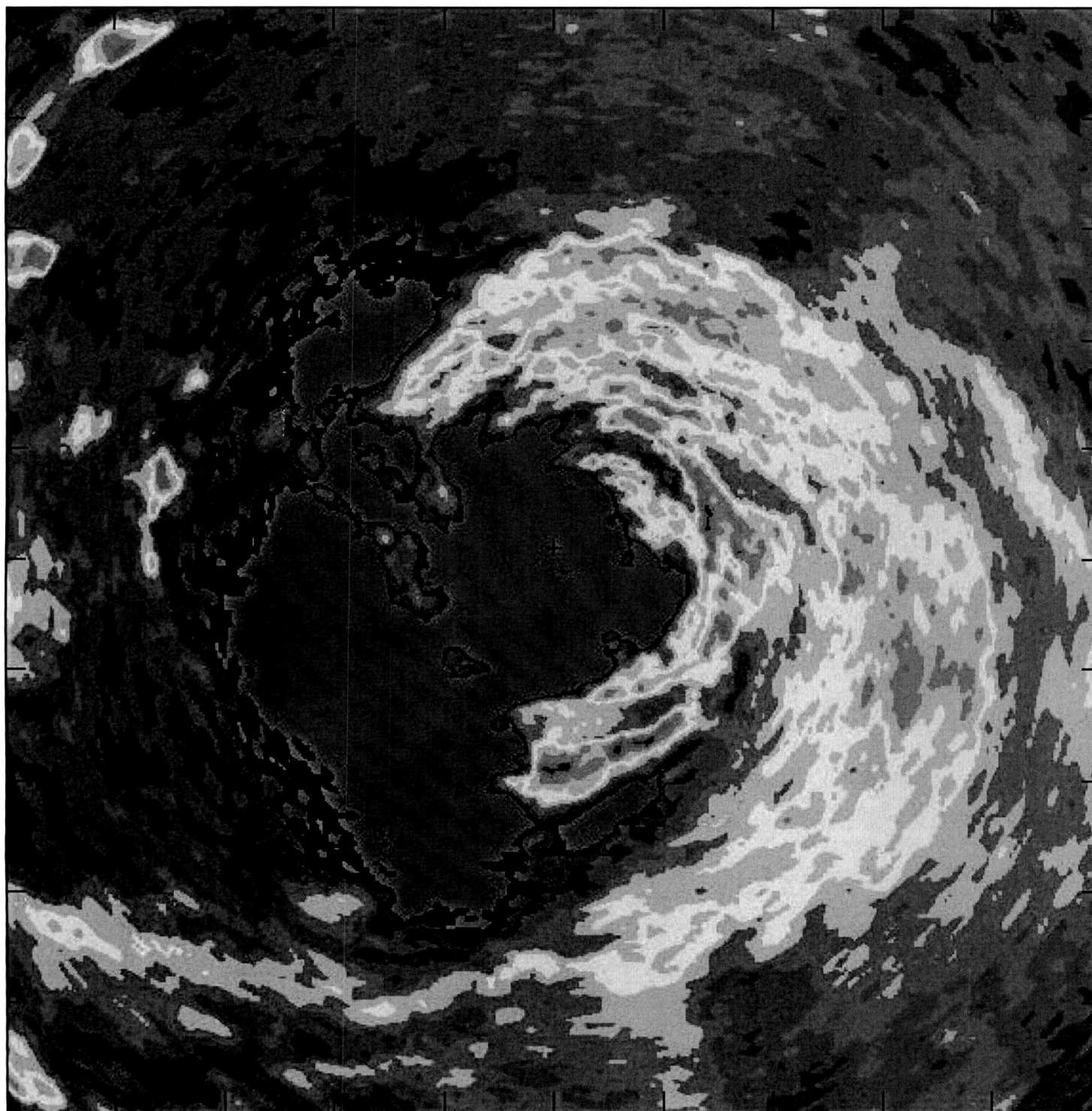
dBZ

014713 Z

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980829H1

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